

WHAT IS CLAIMED IS:

1. A method for treating tissue within a patient's spine comprising:
introducing an electrode terminal through an annulus into a nucleus pulposis
5 within a patient's disc; and
applying a high frequency voltage difference between the electrode terminal
and a return electrode, the voltage difference being sufficient to contract collagen fibers
within the nucleus pulposis.
- 10 2. The method of claim 1 further comprising advancing a distal portion
of an instrument shaft through the annulus into the nucleus pulposis, the electrode terminal
being located on said distal portion.
- 15 3. The method of claim 1 wherein the distal portion of the instrument
has a diameter less than 2 mm.
4. The method of claim 1 wherein the distal portion of the instrument
has a diameter less than 1 mm.
- 20 5. The method of claim 1 wherein the instrument shaft is introduced
anteriorly through the patient to the spine.
6. The method of claim 1 wherein the distal end of the instrument shaft
is tapered.
- 25 7. The method of claim 1 wherein the nucleus pulposis includes an
extruded portion extending through the annulus, the method comprising advancing the
electrode terminal into a non-extruded portion of the pulposis.
- 30 8. The method of claim 1 further comprising ablating a portion of the
nucleus pulposis.
9. The method of claim 1 further comprising delivering electrically
conductive fluid between the electrode terminal and the nucleus pulposis.
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10. The method of claim 9 further comprising positioning the return electrode within the electrically conductive fluid to complete a current flow path between the electrode terminal and the return electrode.

5 11. The method of claim 1 further comprising positioning the return electrode on the outer surface of the patient's body, and conducting electrical current from the electrode terminal, through the patient's body, to the return electrode.

10 12. The method of claim 1 wherein the electrode terminal comprises a single, active electrode at the distal end of a shaft.

13. The method of claim 1 wherein the electrode terminal comprises a plurality of electrically isolated electrode terminals at the distal end of a shaft.

15 14. The method of claim 1 further comprising:
withdrawing the electrode terminal from the nucleus pulposis and the annulus; and
applying sufficient high frequency voltage to the electrode terminal during the withdrawing step to contract collagen fibers within the annulus.

20 15. A method for treating tissue within a patient's spine comprising:
positioning an electrode terminal and a return electrode within close proximity of tissue within a patient's spine; and
applying a high frequency voltage difference between the electrode terminal
25 and the return electrode, the voltage difference being sufficient to contract collagen fibers within the tissue.

16. The method of claim 15 wherein the tissue is the nucleus pulposis.

30 17. The method of claim 15 wherein the tissue is the annulus surrounding the nucleus pulposis.

35 18. The method of claim 15 further comprising delivering electrically conductive fluid between the electrode terminal and the return electrode to complete a current flow path between the electrode terminal and the return electrode.

19. The method of claim 15 wherein the electrode terminal comprises a single, active electrode at the distal end of a shaft.

20. The method of claim 15 wherein the electrode terminal comprises a plurality of electrically isolated electrode terminals at the distal end of a shaft.

21. An electrosurgical apparatus for treating tissue within a patient's spine comprising:

a shaft having a proximal end portion and a distal end portion with an electrode terminal, the distal end portion being sized and configured for advancing through a percutaneous penetration in the patient, through an annulus within a disc into the nucleus pulposus;

a return electrode on the distal end portion of the shaft; and

a high frequency power supply coupled to the return electrode and the electrode terminal for applying high frequency voltage differences therebetween, the power supply being configured to apply a sufficient voltage difference to contract collagen fibers within spinal tissue.

22. The apparatus of claim 21 wherein the distal portion of the shaft has a diameter less than 2 mm.

23. The apparatus of claim 21 wherein the distal portion of the shaft has a diameter less than 1 mm.

24. The apparatus of claim 21 wherein the distal end of the instrument shaft is tapered.

25. The apparatus of claim 24 wherein the electrode terminal is located on the tapered distal end of the shaft.

26. The apparatus of claim 21 wherein the electrode terminal comprises a single, active electrode at the distal end of a shaft.

27. The apparatus of claim 21 wherein the electrode terminal comprises a plurality of electrically isolated electrode terminals at the distal end of a shaft.

5 29. The apparatus of claim 21 further comprising an aspiration element
for aspirating fluids and tissue fragments from the target site.

30. The apparatus of claim 29 further comprising an aspiration electrode at or near the distal end of the aspiration element and coupled to the high frequency power supply for ablation of tissue fragments aspirated into the aspiration element.

31. The apparatus of claim 30 wherein the aspiration electrode comprises a wire mesh stretching across a distal opening of an aspiration lumen.

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